International Fire Code (IFC) 2006 – 2012 Significant Changes Matrix

2012 State Adopted Code
2006 Local Amendments
New Local Amendments

Section / Topic	2006 Flagstaff Fire Adopted (IFC)	2012 State Adopted Model Code	2012 Amended COF (proposed)	Notes
Part 1 -Chapters 1& 2; Scope & Administration/ Definitions	Chapters 1-45	Reorganized code by grouping of Chapters in Parts - Chapters 1-80 Many left blank for amended add ins	Adoption of the same reorganization of the chapters.	**Adoption proposed to be in compliance with State adoption of 2012 IFC.**
Definition 2702.1 *Detached* Building	A separate single story building without a *basement* or crawls space used for storage or use of hazardous materials and located an *approved* distance from all structures.	A separate single story building without a *basement* or crawls space used for storage or use of hazardous materials and located an approved distance from all structures.	**DETACHED BUILDING**: A separate stand-alone structure that is separated from other buildings in accordance with the requirements of the International Building Code, greater than 200 square foot and/or within 15 feet of the existing or primary structure. This classification shall include, but not limited to the following: Casitas, Gazebos, Storage Sheds, Garages, Green Houses, Ramadas, Barns, Shops	**Proposed Local Language (not in conflict with state definition) to provide more specific definition and understanding of detached building.**
Definition Section 202 *Sky Lantern*			**SKY LANTERN**. A device designed to carry an open flame as an airborne light. Also known as, but not limited to, Kongming Lantern, Whish Lantern, Sky Candle, or Fire Balloon.	**Proposed Local addition to Code (not currently in the State Adopted code) These devices are designed to be used over bodies of water , and are not conducive to our wildland interface areas**
Chapter 3- General Requirements			**Amend Section 308 entitled "Open Flames" by adding: 308.1.1.1 Sky Lanterns**. The lighting of, and/or release of Sky Lanterns is prohibited	**Proposed Local addition to Code (not currently in the State Adopted code) These devices are designed to be used over bodies of water , and are not conducive to our wildland interface areas**

International Fire Code (IFC) 2006 – 2012 Significant Changes Matrix

2012 State Adopted Code
2006 Local Amendments
New Local Amendments

Section / Topic	2006 Flagstaff Fire Adopted (IFC)	2012 State Adopted Model Code	2012 Amended COF (proposed)	Notes
Chapter 5- Fire Service Features				
Section 503.1.2 *Additional Access*	Section 503.1.2 Additional Access. Approved secondary access shall be provided to all subdivisions and developments when fire access exceeds 1200 feet in length. Secondary access shall be provided for all developments that exceed 50 units/lots.	503.1.2 Additional Access. The fire code official is authorized to require more than one fire access road based on the potential for impairment of a single road by vehicle congestion, condition of terrain, climatic conditions or other factors that could limit access	Section 503.1.2 Additional Access. Approved secondary access shall be provided to all subdivisions and developments when fire access exceeds 1200 feet in length. Secondary access shall be provided for all one or two family residential developments that exceed 30 units/lots.	**Proposed Local Amendment as Continuation of 2006 Code with regard to the 1200 foot length requirement. Proposed local amendment with regard to the 30 units as required by Appendix D already adopted by state Adoption but added in this section to be more specific.**
503.2.1 *Dimensions*	503.2.1 Dimensions. Fire apparatus access roads shall have an unobstructed width of not less than 20 feet (6096 m) except for approved security gates in accordance with section 503.6 and an unobstructed vertical clearance of not less than 13 feet 6 inches.	503.2.1 Dimensions. Fire apparatus access roads shall have an unobstructed width of not less than 20 feet (6096m m) exclusive of shoulders except for approved security gates in accordance with section 503.6 and an unobstructed vertical clearance of not less than 13 feet 6 inches (4115mm).	503.2.1 Dimensions. Fire apparatus access roads shall have an unobstructed width of not less than 20 feet (6096m m) exclusive of shoulders except for approved security gates in accordance with section 503.6 and an unobstructed vertical clearance of not less than 13 feet 6 inches (4115mm).	**Proposed Adoption in Compliance with State Statue**

International Fire Code (IFC) 2006 – 2012 Significant Changes Matrix

2012 State Adopted Code
2006 Local Amendments
New Local Amendments

Section / Topic	2006 Flagstaff Fire Adopted (IFC)	2012 State Adopted Model Code	2012 Amended COF (proposed)	Notes
503.2.3 *Surface*	503.2.3 Surface. Fire apparatus access roads shall be designed and maintained to support a minimum 80,000 pounds gross vehicle weight. A maintenance agreement for private roads or other fire access may be required showing the responsibility for roadway maintenance and snow plowing.	503.2.3 Surface. Fire apparatus access roads shall be designed and maintained to support the imposed loads of fire apparatus and shall be surfaced so to provide all weather driving capabilities	503.2.3 Surface. Fire apparatus access roads shall be designed and maintained to support a minimum 80,000 pounds gross vehicle weight. A maintenance agreement for private roads or other fire access may be required showing the responsibility for roadway maintenance and snow plowing	**Proposed local Amendment is a Continuation of 2006 Local Amendment (not in conflict with the state Adoption) The road surface must be capable of caring the load of emergency response vehicles. Our aerial apparatus has a GVW of approximately 80,000 pounds. This proposal is to give more specific standards**
503.2.4 *Turning Radius*	503.2.4 Turning Radius The required turning radius of a fire apparatus access road shall be determined by the fire code official	503.2.4 Turning Radius The required turning radius of a fire apparatus access road shall be determined by the fire code official	503.2.4 Turning Radius The required minimum turning radius of a fire apparatus access road shall be 35 feet inside, 55 feet outside, or 45 feet on center	**Adoption proposed to be in compliance with State adoption of 2012 IFC. These dimensions are required due to Appendix D adopted by the State. This is also added in this portion of the code for more specificity and to avoid confusion. This provision provides prescriptive information on specific turning radius or FFD apparatus. Our aerial apparatus turning radius is 45 feet on center.**

International Fire Code (IFC) 2006 – 2012 Significant Changes Matrix

2012 State Adopted Code
2006 Local Amendments
New Local Amendments

Section / Topic	2006 Flagstaff Fire Adopted (IFC)	2012 State Adopted Model Code	2012 Amended COF (proposed)	Notes
Section 503.2.5 *Dead ends.*	Section 503.2.5 Dead ends. There shall be no parking or other obstructions in fire apparatus turnaround areas that would impair turning of apparatus. When parking or other design features are desired, the proper design must be approved. Accumulation of snow must also be accounted for to prevent winter time obstructions.	Section 503.2.5 Dead ends. Dead end fire access roads in excess of 150 feet (45720mm) in length shall be provided with an approved area for turning around fire apparatus	Section 503.2.5 Dead ends. Dead end fire access roads in excess of 150 feet (45720mm) in length shall be provided with an approved area for turning around fire apparatus There shall be no parking or other obstructions in fire apparatus turnaround areas that would impair turning of apparatus. When parking or other design features are desired, the proper design must be approved. Accumulation of snow must also be accounted for to prevent winter time obstructions.	**Adoption proposed to be in Compliance with State Statue and as a Continuation of 2006 Local Amendment** **There are inherent hazards associated with backing fire apparatus long distances. This code intends to ensure for a safer operation. This provision takes into consideration snow impacts in the Flagstaff region.**
Section 503.2.7 *Grade*	Section 503.2.7 Grade. The gradient for a fire apparatus access road shall not exceed 10 percent on straight sections of roadway and 5 percent side slope on turnarounds and curves **.**	503.2.7 Grade. The grade of the fire apparatus access road shall be within the limits established by the fire code official based on the fire departments apparatus.	Section 503.2.7 Grade. The gradient for a fire apparatus access road shall not exceed 10 percent on straight sections of roadway and 5 percent side slope on turnarounds and curves **.**	**Continuation of 2006 Local Amendment (not in conflict with State Adoption)** **Flagstaff's unique topography and weather requires this provision for an adequate working platform for our operations.**

International Fire Code (IFC) 2006 – 2012 Significant Changes Matrix

2012 State Adopted Code
2006 Local Amendments
New Local Amendments

Section / Topic	2006 Flagstaff Fire Adopted (IFC)	2012 State Adopted Model Code	2012 Amended COF (proposed)	Notes
Section 505.1 *Address Numbers*	Section 505.1 Address Numbers. New and existing buildings shall have approved address numbers, building numbers, or approved building identification placed in a position that is plainly legible and visible from the street or road fronting the property. These numbers shall contrast in their background. Address numbers shall be Arabic numerals or alphabetical letters. Numbers shall be a minimum of 4 inch (102mm) high with a minimum stroke width or 0.5 inch (12.7 mm) Commercial address numbers shall be a minimum of 6 inches high with a minimum stroke width of 0.5 inch. When address numbers attached to buildings are insufficient to be seen from the street, additional numbers may be required at a location approved by the Chief. Approved identification shall also be provided on the rear door(s) at any location where access into the building may be difficult to determine.	Section 505.1 Address Numbers. New and existing buildings shall have approved address numbers, building numbers, or approved building identification placed in a position that is plainly legible and visible from the street or road fronting the property. These numbers shall contrast in their background. Where required by the fire code official Address numbers shall be provided in additional approved locations to facilitate emergency response. Address numbers shall be Arabic numerals or alphabetical letters. Numbers shall be a minimum of 4 inch (102mm) high with a minimum stroke width or 0.5 inch (12.7 mm). Where access is by means of a private road and the building cannot be viewed from the public way, a monument, pole or other sign or means used to identify the structure. Address numbers shall be maintained	Section 505.1 Address Numbers . New and existing buildings shall have approved address numbers, building numbers, or approved building identification placed in a position that is plainly legible and visible from the street or road fronting the property. These numbers shall contrast in their background. Where required by the fire code official Address numbers shall be provided in additional approved locations to facilitate emergency response. Address numbers shall be Arabic numerals or alphabetical letters. Numbers shall be a minimum of 4 inch (102mm) high with a minimum stroke width or 0.5 inch (12.7 mm). Where access is by means of a private road and the building cannot be viewed from the public way, a monument, pole or other sign or means used to identify the structure. Address numbers shall be maintained Commercial address numbers shall be a minimum of 6 inches high with a minimum stroke width of 0.5 inch. Buildings in multi-building complexes must be marked with 12” minimum numbers. When address numbers attached to buildings are insufficient to be seen from the street, additional numbers may be required at a location approved by the Chief.	**Adoption proposed to be in Compliance with State Statute and as a Continuation of 2006 Local Amendment** **Address numbering should be easily identifiable to emergency responders from their vehicle. This includes multiple sides of the building as well as addresses where there are multiple buildings such as in apartment complexes. This is important during daylight hours as well as at night. Consistency in the size and location is important for emergency response personnel.**

Section / Topic	2006 Flagstaff Fire Adopted (IFC)	2012 State Adopted Model Code	2012 Amended COF (proposed)	Notes
			Approved identification shall also be provided on the rear door(s) at any location where access into the building may be difficult to determine	
Chapter 6- Building Services & Systems				
Section 606.8 *Refrigerant Detector*	Section 606.8 Refrigerant Detector Machinery rooms shall contain a refrigerant detector with an audible and visual alarm. The detector or a sampling tube that draws air into the detector shall be located in an area where refrigerant from a leak will concentrate. The alarm shall be actuated at a value not greater than the corresponding TLV-TWA values shown in the international mechanical code for the refrigerant classification. Detectors and alarms shall be placed in approved locations	Section 606.8 Refrigerant Detector Machinery rooms shall contain a refrigerant detector with an audible and visual alarm. The detector or a sampling tube that draws air into the detector shall be located in an area where refrigerant from a leak will concentrate. The alarm shall be actuated at a value not greater than the corresponding TLV-TWA values shown in the international mechanical code for the refrigerant classification. Detectors and alarms shall be placed in approved locations The detector shall transmit a signal to an approved location.	Section 606.8 Refrigerant Detector Machinery rooms shall contain a refrigerant detector with an approved and distinctive audible and visual alarm. The alarm notification devices shall comply with the audible and visual requirements of the *National Fire Alarm Code*, NFPA 72. A supervisory alarm shall be activated when the mechanical ventilation system fails. The detector, or a sampling tube that draws air to the detector, shall be located in an area where refrigerant from a leak will concentrate. The alarm shall be activated at a value not greater than the corresponding TLV-TWA values shown in the International Mechanical Code. Detectors and alarms shall be placed in one or more locations to assure notifications of all occupants	**Proposed local amendment to provide clarity on design standards (not in conflict with State Adoption)** **This provision provides 2 guidelines.** **1. To provide guidance on installation standards** **2. 2. Requires notification of all occupants.**

International Fire Code (IFC) 2006 – 2012 Significant Changes Matrix

2012 State Adopted Code
2006 Local Amendments
New Local Amendments

Section / Topic	2006 Flagstaff Fire Adopted (IFC)	2012 State Adopted Model Code	2012 Amended COF (proposed)	Notes
Chapter 9- Fire Protection Systems				
901.6.3 *Inspection and testing and Maintenance*			901.6.3 Inspection and testing. All fire protection systems shall be inspected and tested annually by a contractor licensed by the State of Arizona and who has a current business license issued by the City of Flagstaff to work on the specific type of fire protection system being inspected or tested	**Proposed Local amendment by adding clarity to maintenance requirements Fire protection system design has had many new advancements due to technology. This amendment ensures that work is being performed by qualified fire protection contractors.**
901.6.2 Records	901.6.2 Records Records of all system inspections, tests and maintenance required by the referenced standards shall be maintained on premise s for a minimum of 3 years and shall be copied to the fire code official upon request	901.6.2 Records Records of all system inspections ,tests and maintenance required by the referenced standards shall be maintained on premise s for a minimum of 3 years and shall be copied to the fire code official upon request	901.6.2 Records Records of all system inspections, tests and maintenance required by the referenced standards shall be maintained on premise s for a minimum of 3 years and shall be copied to the fire code official upon request and deficiencies shall be copied to the authority having jurisdiction within thirty (30) business days	**Proposed Local Amendment (not in conflict with State Adoption) Record keeping of fire protection systems is critical for business owners as well as fire departments. This amendment ensures adequate record keeping is in place. Recall situations may also occur. Records are important to remedy equipment recall situations.**

2012 State Adopted Code
2006 Local Amendments
New Local Amendments

Section / Topic	2006 Flagstaff Fire Adopted (IFC)	2012 State Adopted Model Code	2012 Amended COF (proposed)	Notes
Section 903.2.14 *Other Sprinkler System Required Locations* **Specific Building Classifications* Section 903.2 Section 903.2.1.1 Section 903.2.1.3 Section 903..2.1.4 Section 903.2.2.1 Section 903.2.3 Section 903.2.4 Section 903.2.4.1 Section 903.2.7 Section 903.2.8 Section 903.2.9 Section 903.2.9.1 Section 903.2.10	Section 903.2.14 Other Sprinkler System Required Locations. Notwithstanding the previously dictated required locations, automatic fire sprinkler systems shall also be required in: Commercial buildings greater than 5,000 square feet. Commercial buildings greater than three stories in height. Buildings and structures within Traditional Neighborhood Districts	All Sections listed in First column of table for specific building classifications. Approved automatic monitored sprinkler system shall be installed throughout all levels of all new Group A, B, E, F, M, R, S and U occupancies. Requirements on square footage of each building classification vary from 2500 Sq. ft. for F-1 woodworking facilities to 24,000 Sq. Ft for F-1 factories	All Sections listed in First column of table for specific building classifications. In addition to the requirements of the fire and building codes, an approved automatic monitored sprinkler system shall be installed throughout all levels of all new Group B, E, F, M, U and S occupancies 5,000 square feet (464m2) or greater and in all buildings over 3 stories in height regardless of the total square footage. Such systems shall be in accordance with the International Fire Code, International Building Code and installed in accordance with NFPA 13, 13D or 13R as specified by the fire code official. Notwithstanding the foregoing, an automatic monitored fire sprinkler system may be installed in any building regardless of floor area	**Proposed Local Amendment as a Continuation of 2006 Local Amendment (not in conflict with State Adoption) And reference to traditional neighborhood district have been removed to become compliant with state statute A.R.S. Section 9-808 and 9-807. This provision also offers additional guidance on design standards for sprinkler systems.**

2012 State Adopted Code
2006 Local Amendments
New Local Amendments

Section / Topic	2006 Flagstaff Fire Adopted (IFC)	2012 State Adopted Model Code	2012 Amended COF (proposed)	Notes
5303.16.10.1 Insulated Liquid Carbon Dioxide Systems			**5303.16.10.1 Insulated Liquid Carbon Dioxide Systems** **(A)** Gas detection shall be provided at each point of use whether the cylinder vessel, and/or container are located inside or outside the structure. Basements and/or subterranean spaces that could be physically entered, and which contain CO2 process lines, shall have gas detection. **(B)** When a CO2 gas detection device reaches 15,000 ppm a local warning/supervisory alarm shall sound at a normally occupied location, and/or transmit a supervisory signal to a supervising station if system is monitored off-site. **(C)** When a CO2 gas detection device reaches 30,000 ppm a general evacuation signal shall sound for the occupancy and transmit a gas specific alarm to a supervisory station if system is monitored off-site. **(D)** Where there are less than two 50 lb. DOT approved cylinders stored and/or used inside or outside the structure, per system, gas detection and alarm systems shall not be required.	**Proposed Local Amendment (not contained in State adoption) This is a new risk and hazard now being found in businesses. CO2- detectors provide early warning of a carbon dioxide leak. Such leakage could result in a significant health hazard, if not discovered and stopped or occupants evacuated from the building.**

International Fire Code (IFC) 2006 – 2012 Significant Changes Matrix

2012 State Adopted Code
2006 Local Amendments
New Local Amendments

Section / Topic	2006 Flagstaff Fire Adopted (IFC)	2012 State Adopted Model Code	2012 Amended COF (proposed)	Notes
Chapter 12 - Special Event Requirements			Chapter 12 - Special Event Requirements Adding Definitions General Requirements Outdoor Assembly Events Outdoor concerts /Crowd Management Mobile Food Vehicles	**Proposed Local Amendment (not contained in State Adoption)** **Chapter 12 –** **Special Events is a local amendment to the State adopted 2012 IFC- Offering specific requirements to maintain safety at local special events within Flagstaff. These include** **Special Event Exiting** **Mobile Food Units** **Crowd Management**
Appendix Section				***Appendices must be specifically adopted to be in effect - The State adopted all of the following Appendices**
Appendix B -*Fire Flow Requirements in a Building*	Adopted in 2006 Code Adoption Process	Adopted in 2012 State Code as a part of Adoption Process	Adopt in its entirety	**Adoption proposed to be in compliance with State adoption of 2012 IFC governing minimum fire flow for firefighting**
Appendix C *Fire Hydrant Location and Distribution*	Adopted in 2006 Code Adoption Process	Adopted in 2012 State Code as a part of Adoption Process	Adopt in its entirety	**Adoption proposed to be in compliance with State adoption of 2012 IFC governing fire hydrant design in new construction.**

International Fire Code (IFC) 2006 – 2012 Significant Changes Matrix

2012 State Adopted Code
2006 Local Amendments
New Local Amendments

Section / Topic	2006 Flagstaff Fire Adopted (IFC)	2012 State Adopted Model Code	2012 Amended COF (proposed)	Notes
Appendix D *Fire Apparatus Access Roads*	Not Adopted in 2006 Code Adoption Process	Adopted in 2012 State Code as a part of Adoption Process	Adopt in its entirety	**Adoption proposed to be in compliance with State adoption of 2012 IFC to determine proper fire apparatus access road minimum requirements in new commercial and residential construction design.** **Specifically Code Section D-103.1** **Cul-de-Sac- Minimum Diameter Distance is 96 Feet.**
Appendix E *Hazard Categories*	Not Adopted in 2006 Code Adoption Process	Adopted in 2012 State Code as a part of Adoption Process	Adopt in its entirety	**Adoption proposed to be in compliance with State adoption of 2012IFC This provision provides guidance on proper signage of hazard risks in the community**
Appendix F *Hazard Ranking*	Not Adopted in 2006 Code Adoption Process	Adopted in 2012 State Code as a part of Adoption Process	Adopt in its entirety	**Adoption proposed to be in compliance with State adoption of 2012 IFC. This provision provides guidance on proper ranking of hazards of specific material.**
Appendix G *Cryogenic Fuels – Weight and Volume*	Not Adopted in 2006 Code Adoption Process	Adopted in 2012 State Code as a part of Adoption Process	Adopt in its entirety	**Adoption proposed to be in compliance with State adoption of 2012 IFC. The procedure for determining clarification of cryogenics fuels in weight volume.**

International Fire Code (IFC) 2006 – 2012 Significant Changes Matrix

2012 State Adopted Code
2006 Local Amendments
New Local Amendments

Section / Topic	2006 Flagstaff Fire Adopted (IFC)	2012 State Adopted Model Code	2012 Amended COF (proposed)	Notes
Appendix H *Hazardous Materials Management Plan (HMMP)*	Not Adopted in 2006 Code Adoption Process	Adopted in 2012 State Code as a part of Adoption Process	Adopt in its entirety	**Adoption proposed to be in compliance with State adoption of 2012 IFC. The procedure for identifying hazardous materials and processes in local business, for the purposes of preplan emergency response information, and planning. .**
Appendix I *Fire Protection Systems –Non Compliment Conditions*	Not Adopted in 2006 Code Adoption Process	Adopted in 2012 State Code as a part of Adoption Process	Adopt in its entirety	**Adoption proposed to be in compliance with State adoption of 2012 IFC. The appendix is intended to identify conditions that can occur when fire protection systems are not properly maintained or components damaged.**
Appendix J *Building Sign Information*	Not Adopted in 2006 Code Adoption Process	Adopted in 2012 State Code as a part of Adoption Process	Adopt in its entirety	**Adoption proposed to be in compliance with State adoption of 2012 IFC. The appendix is intended to identify building information**